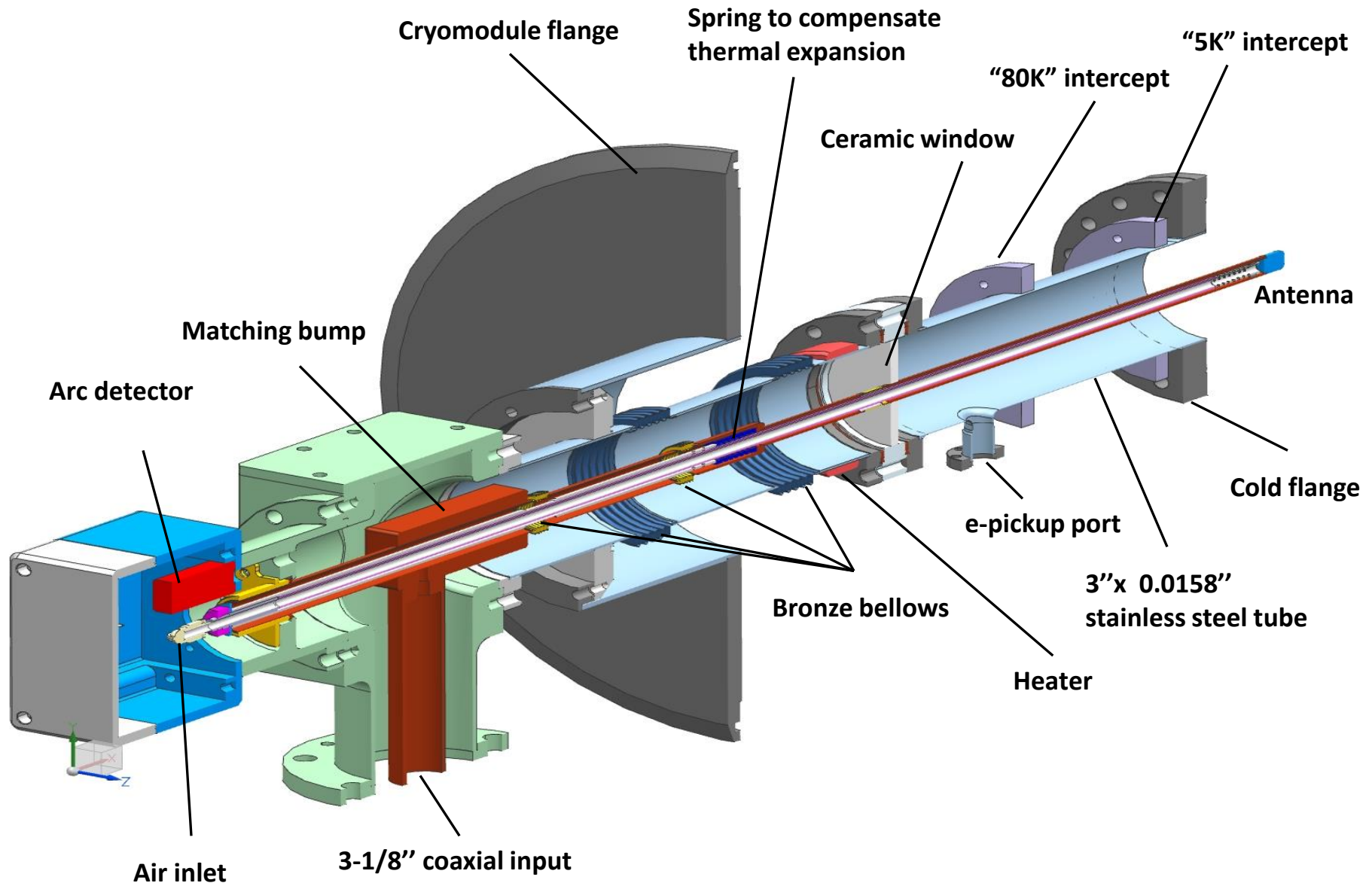


Status of 325 MHz couplers

S. Kazakov

05/20/2014

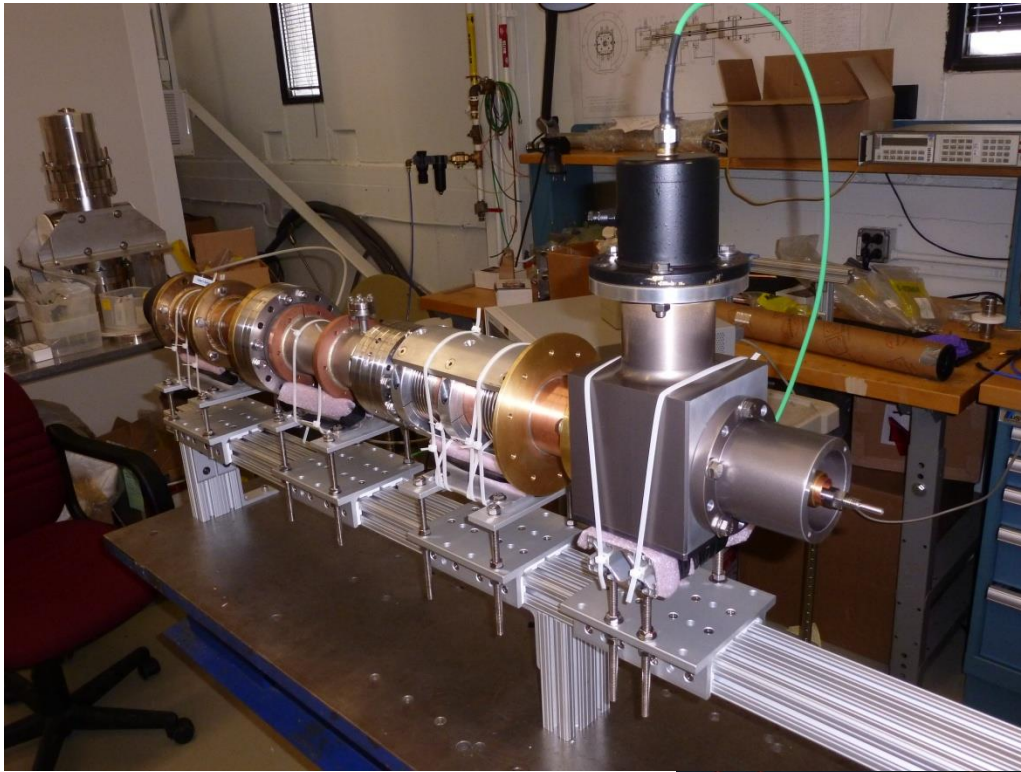
325 MHz coupler

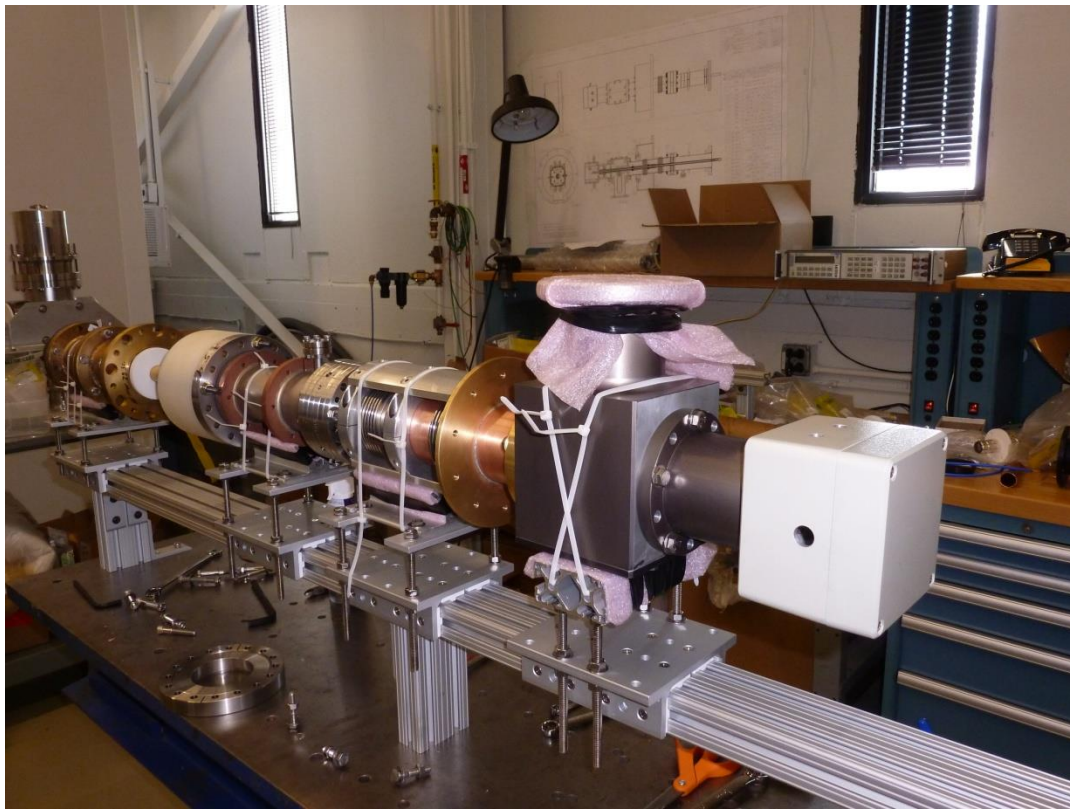


Current status:

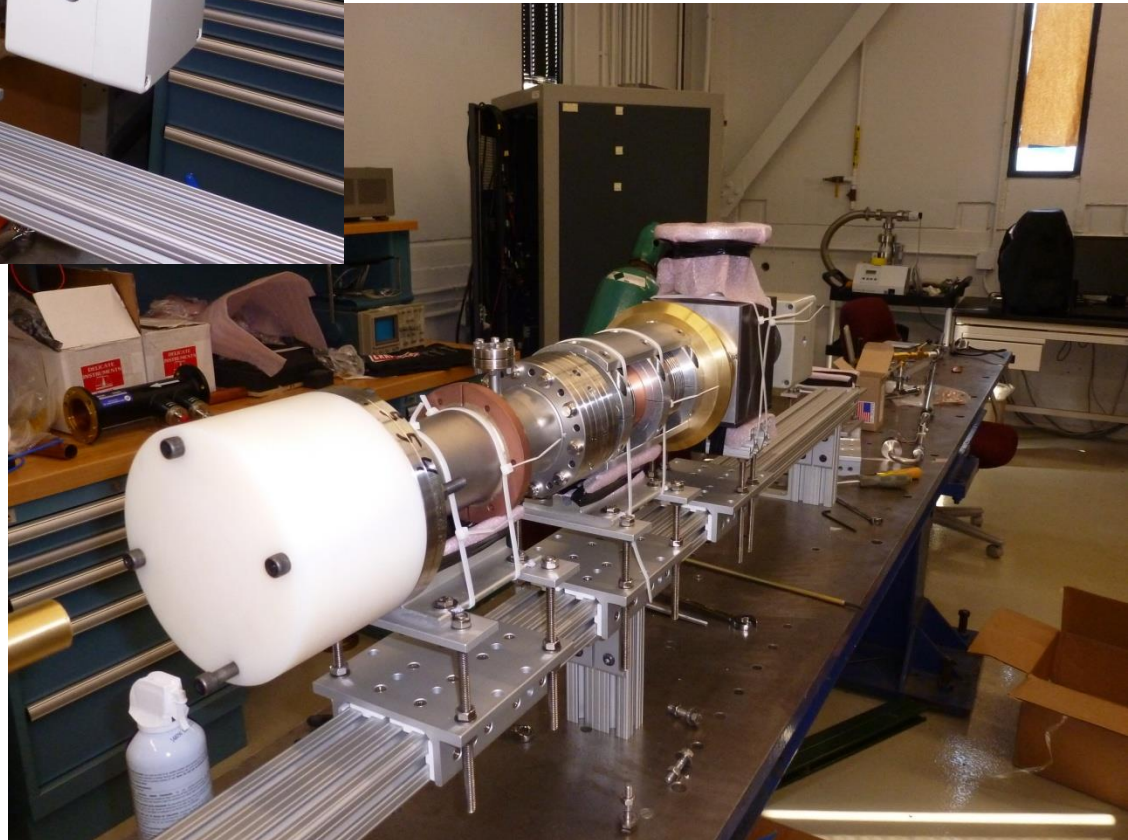
- 3 couplers are fabricated.
- Coupler is tuned ($S_{11} < -26$ dB).
- HV bias was tested up to 5.5 kV (operating level 2 kV).
- Test cavity is fabricated.
- Test cavity is tuned with two couplers ($S_{11} < 20$ dB).
- Test cavity and vacuum parts of coupler were cleaned, assembled and leak checked.
- Two DC blocks are fabricated.
- DC blocks are tuned ($S_{11} < -40$ dB).
- HV bias was tested up to 5.5 kV.
- Cavity with couplers are moved in experimental area, preparing works are started.

Coupler #1

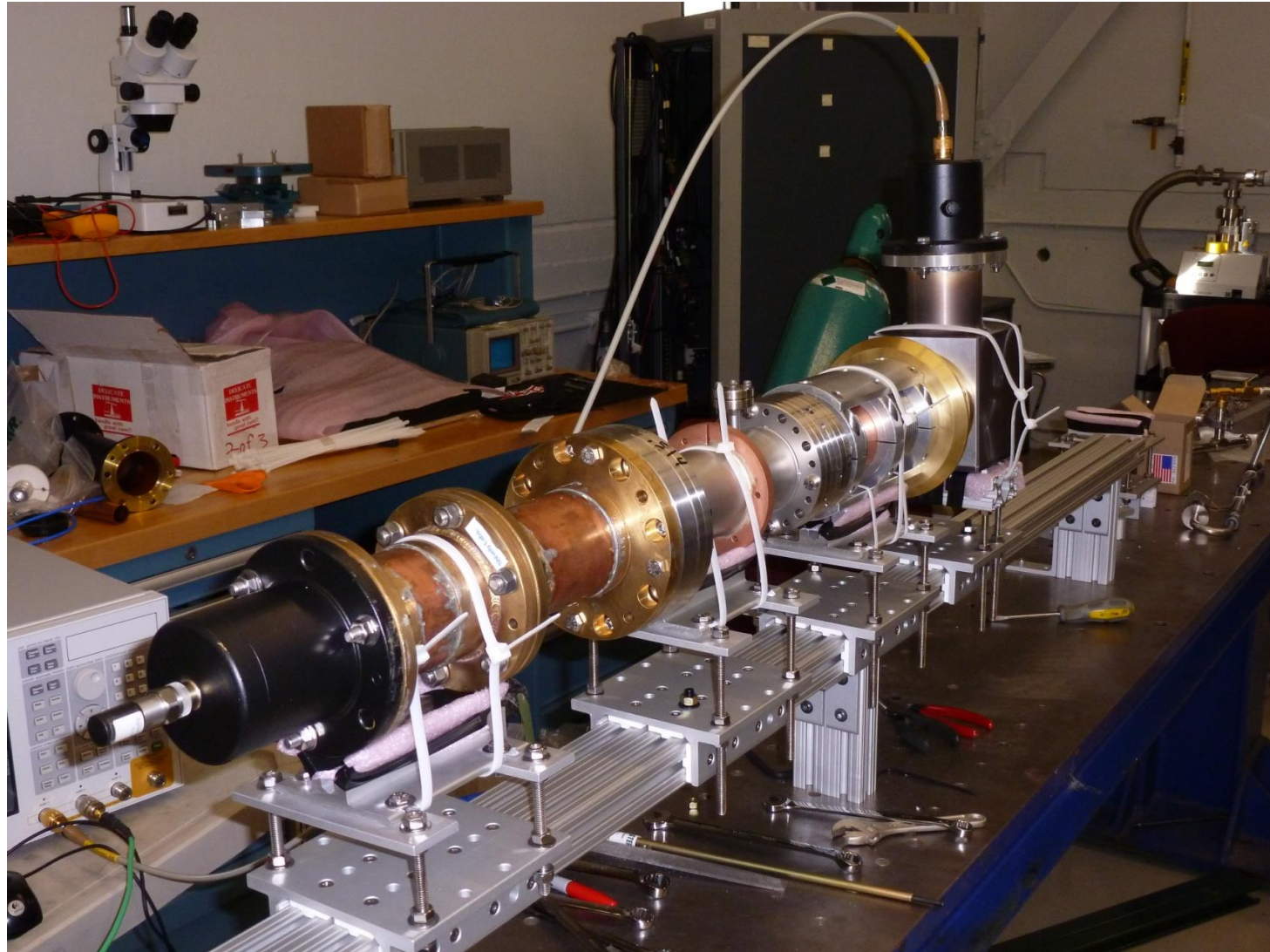




Coupler #2

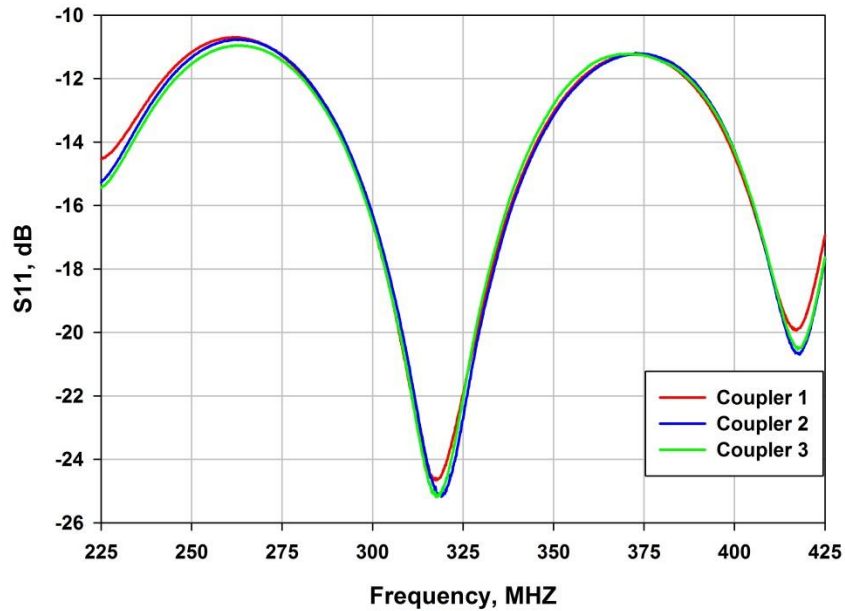


Coupler #3



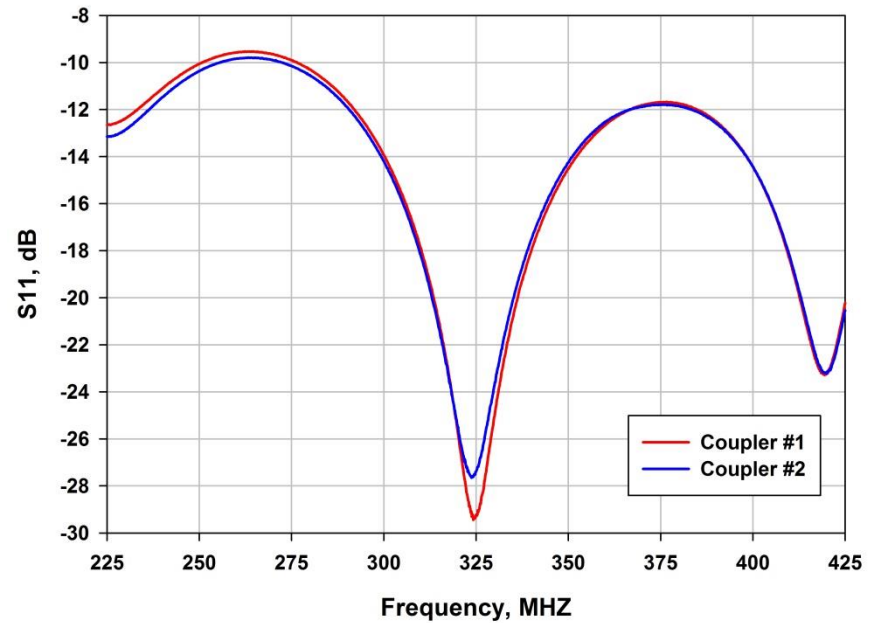
Couplers before tuning.
All couplers are identical:

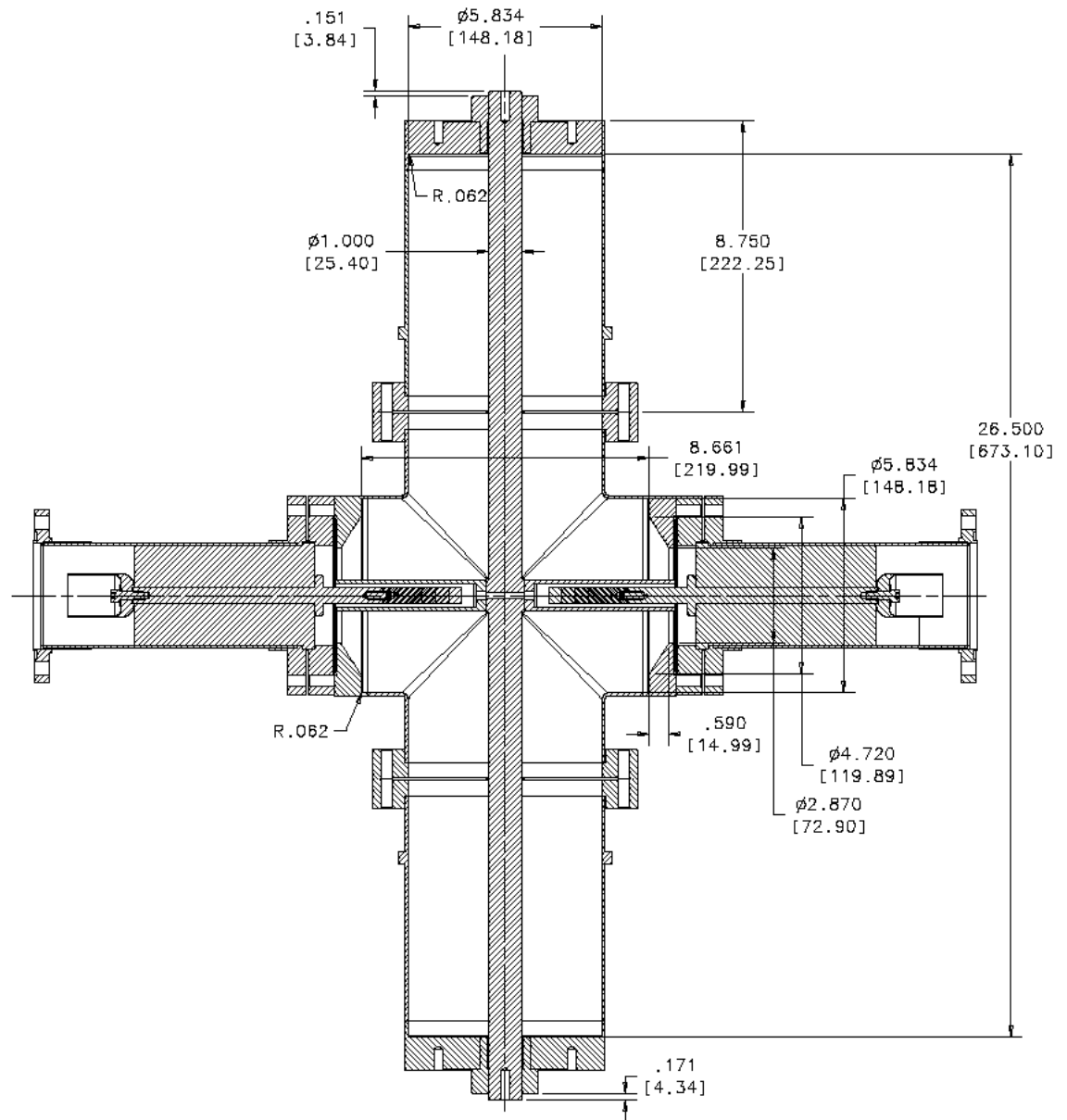
All couplers, S11



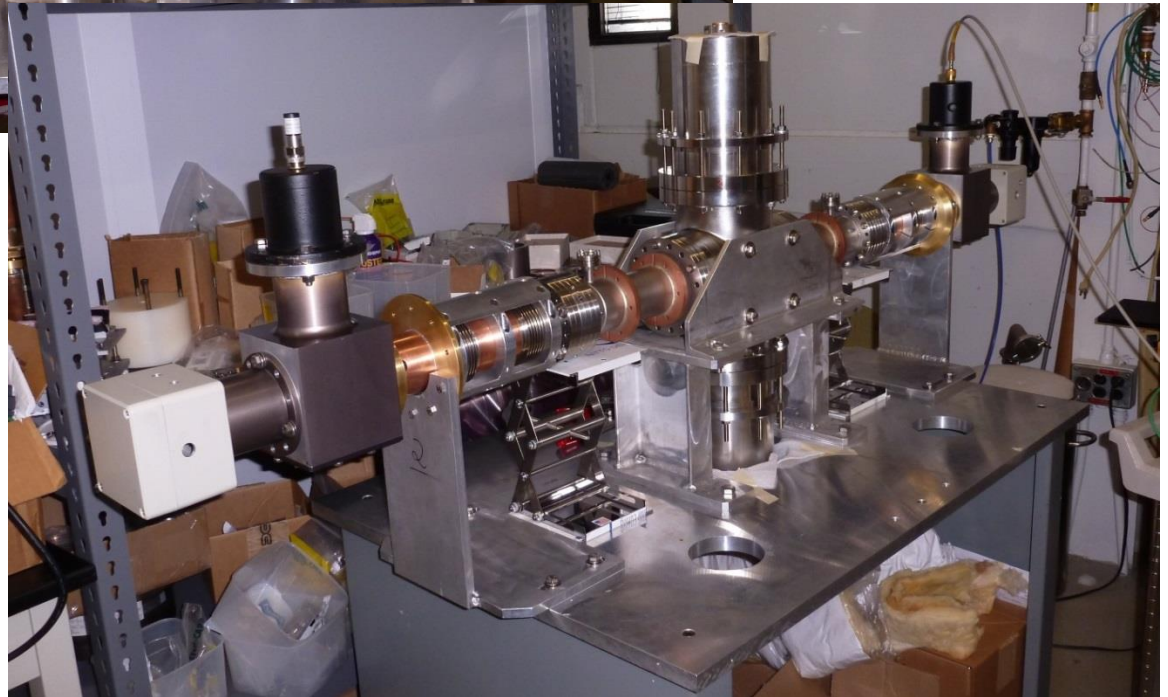
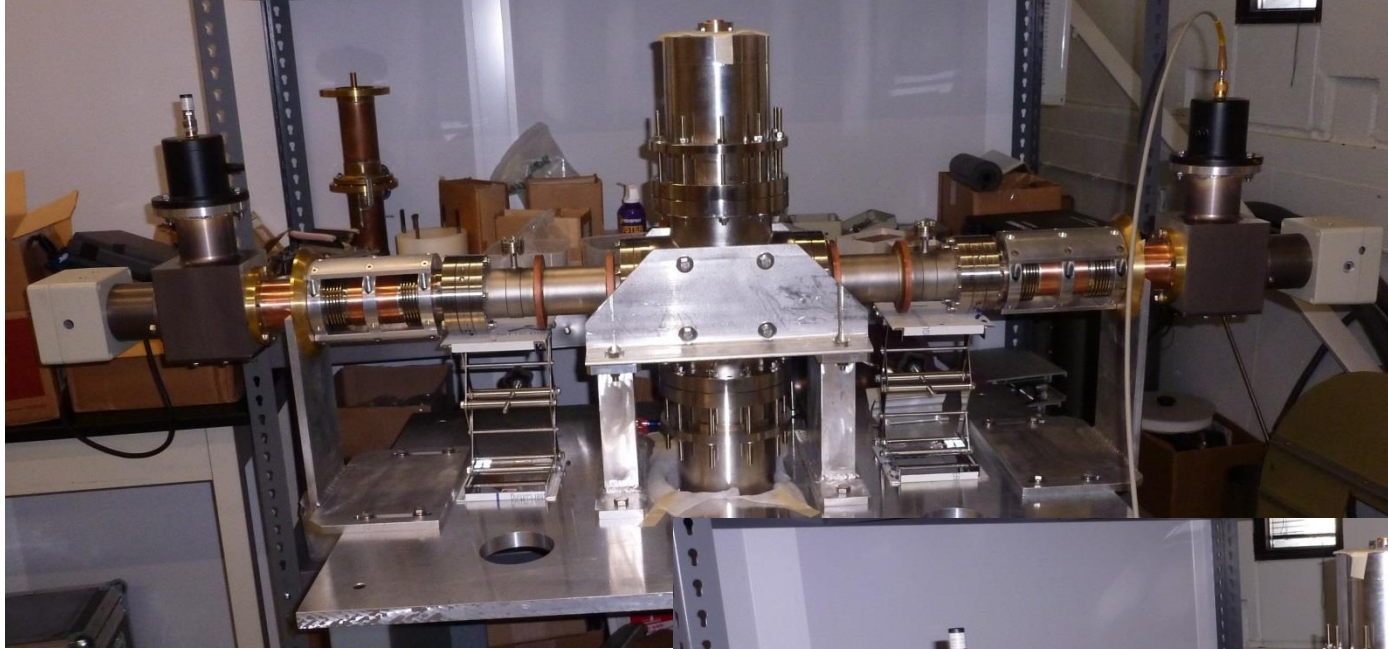
Couplers after tuning:

325 MHz couplers after tuning



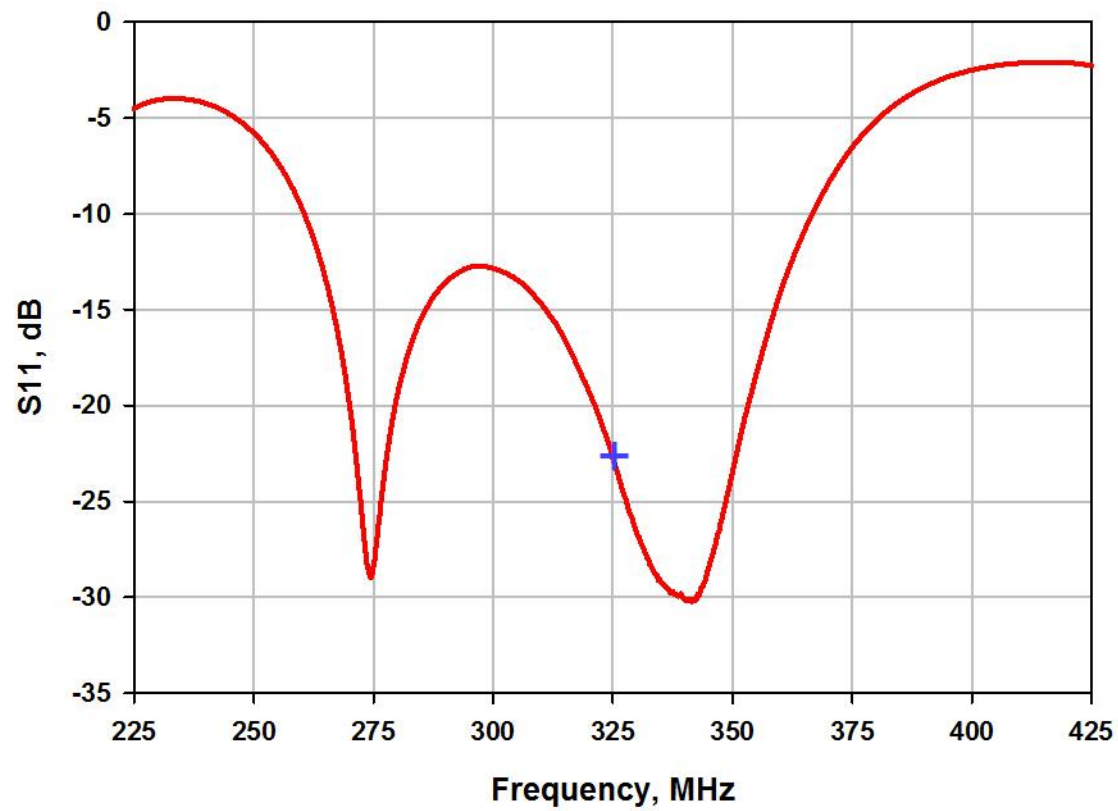


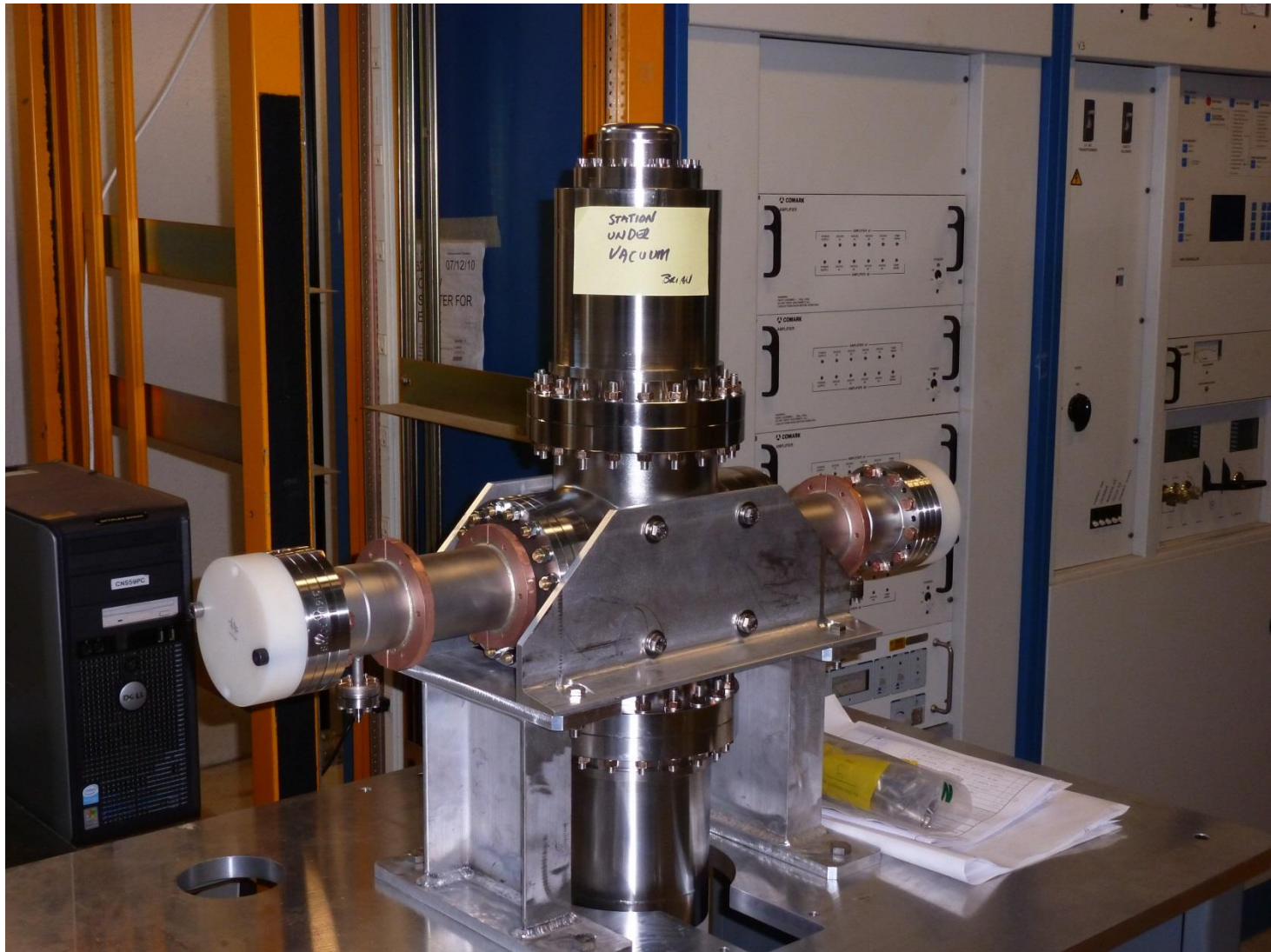
Test cavity with coupler are assembled for tuning



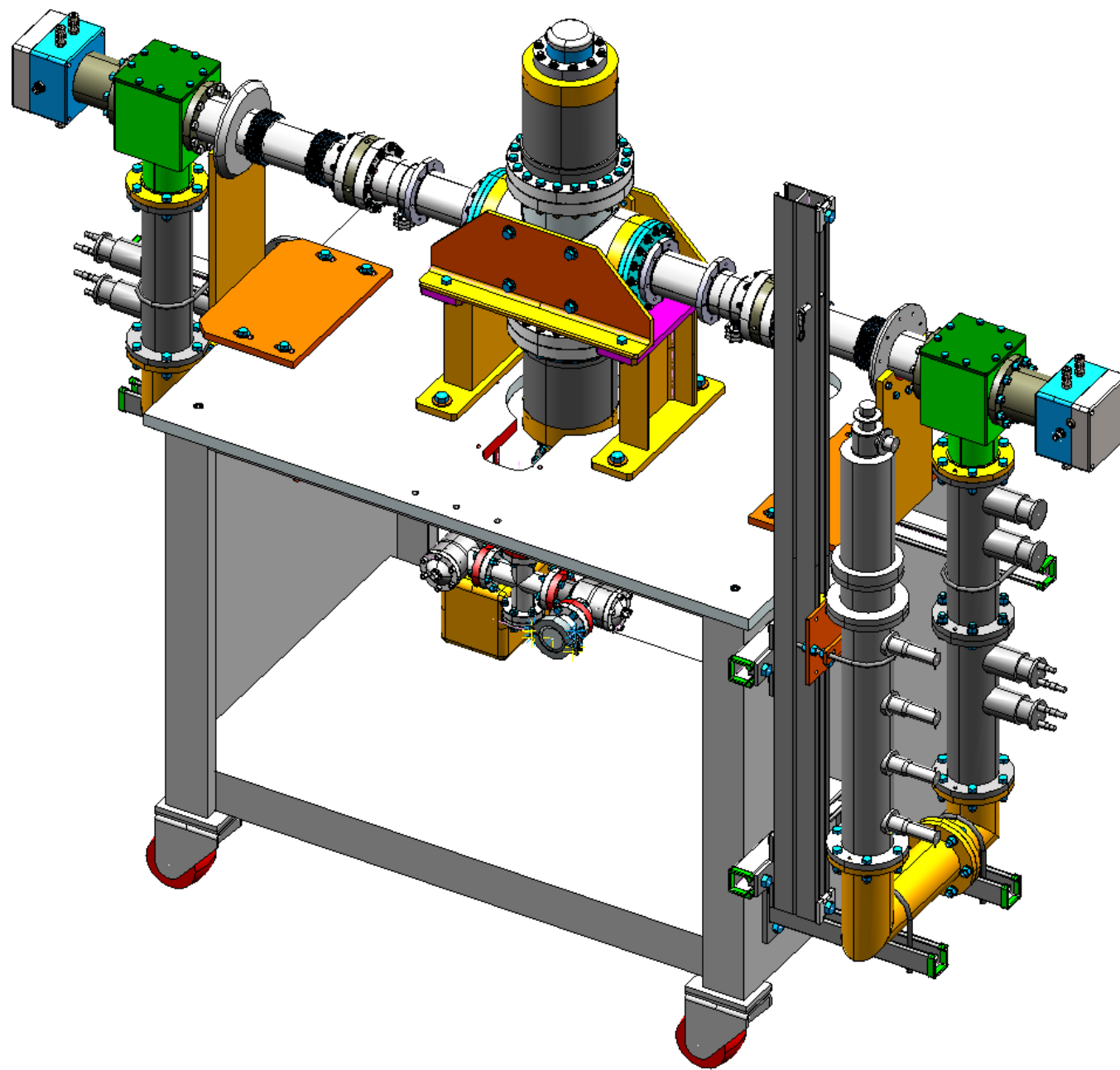
Test cavity with couplers

Test cavity with couplers after welding

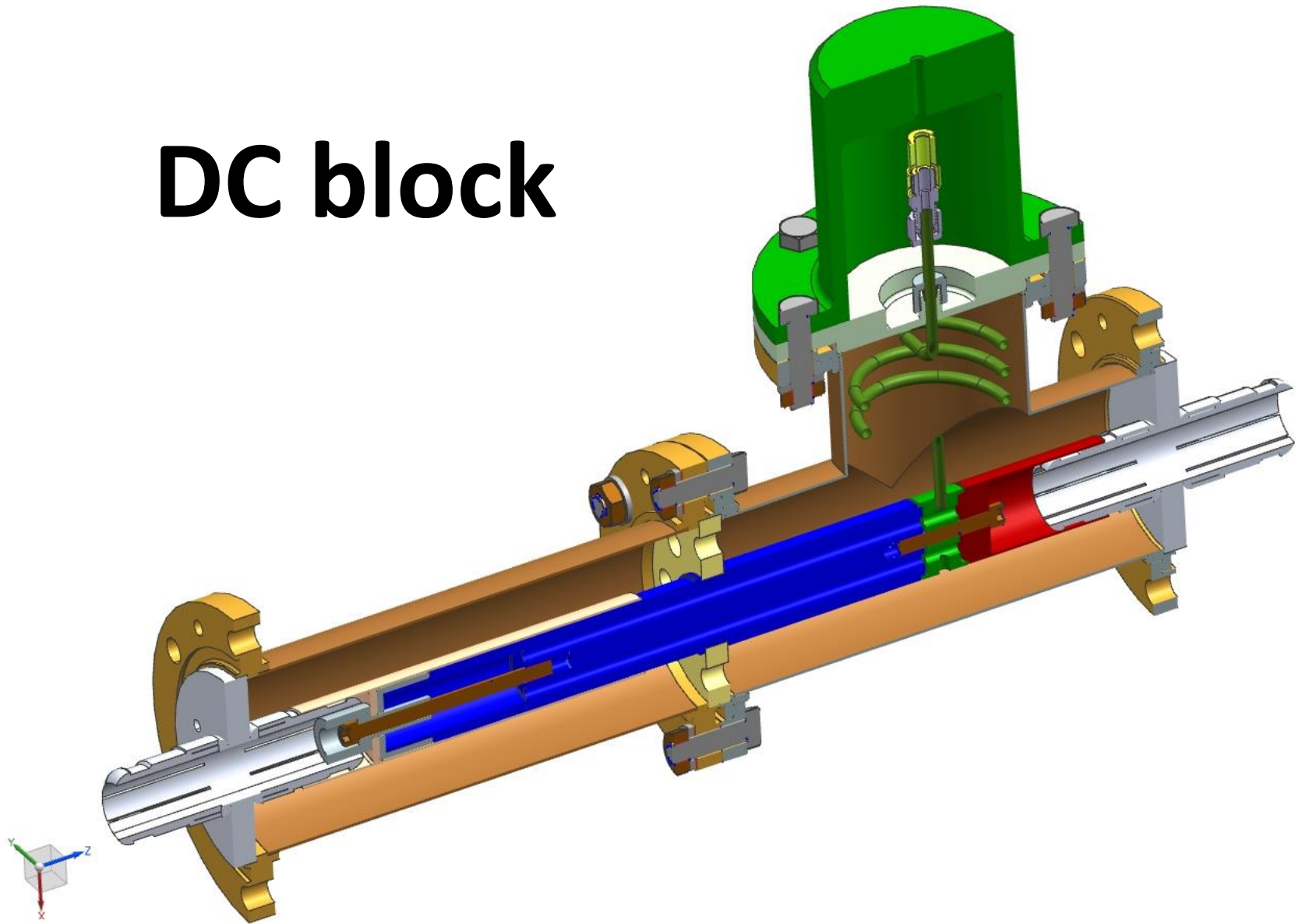


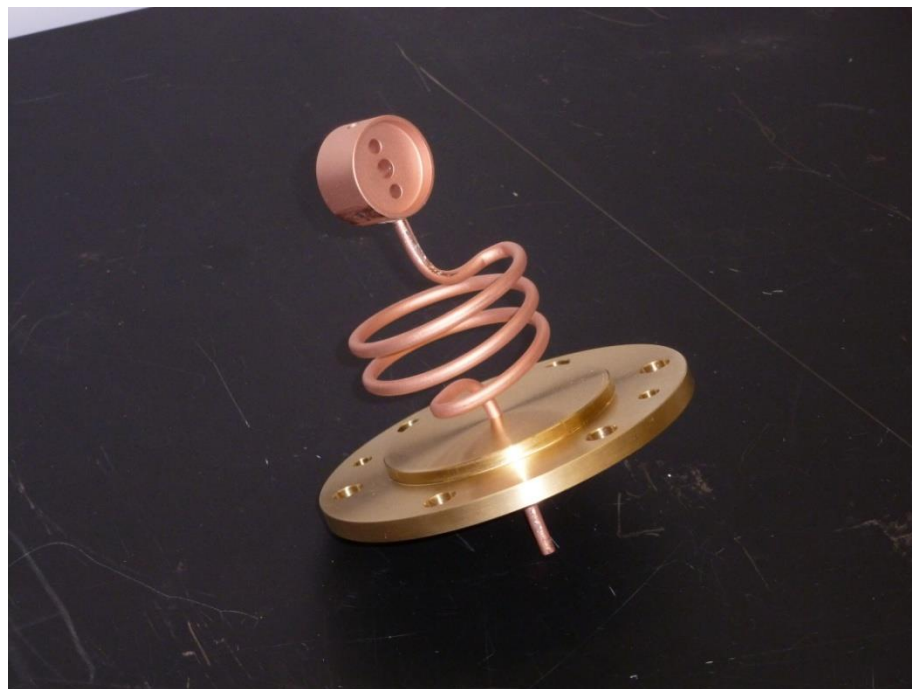
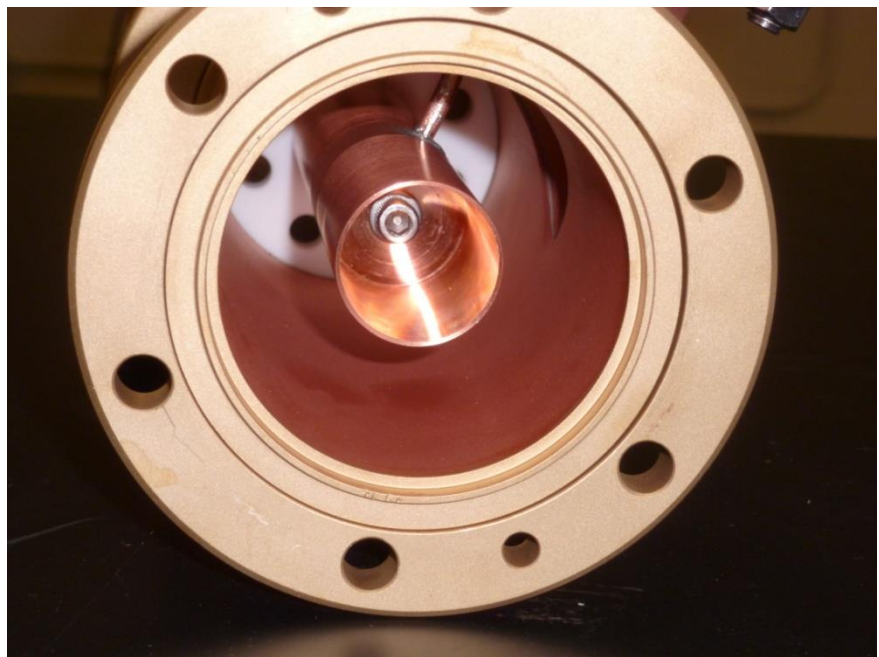
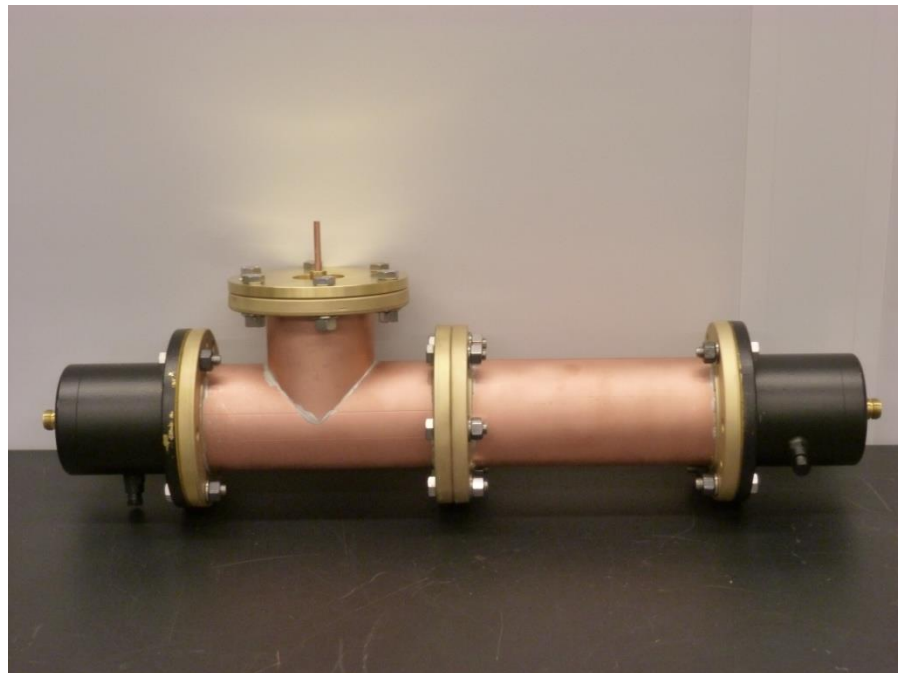
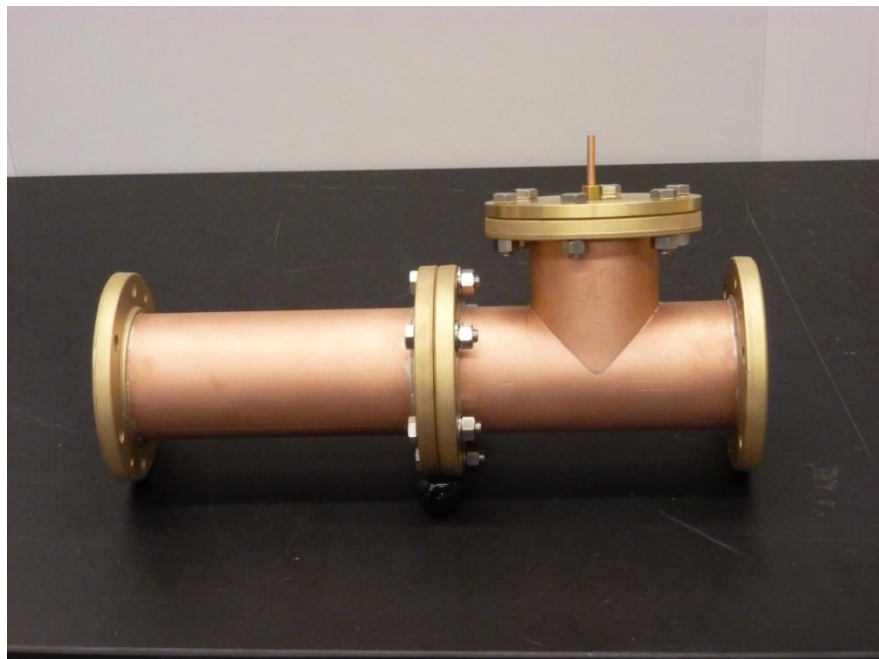


Assembly is in “Meson” building



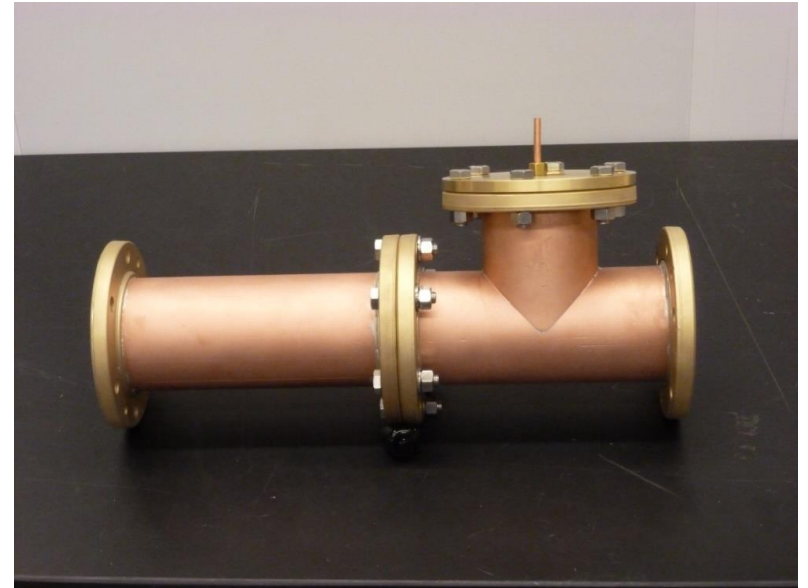
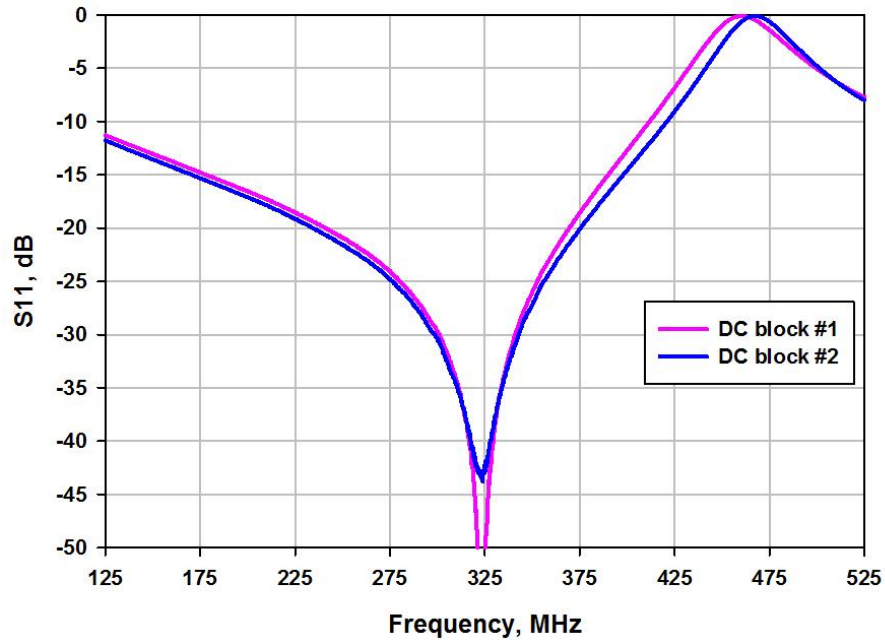
DC block





325 MHz DC blocks

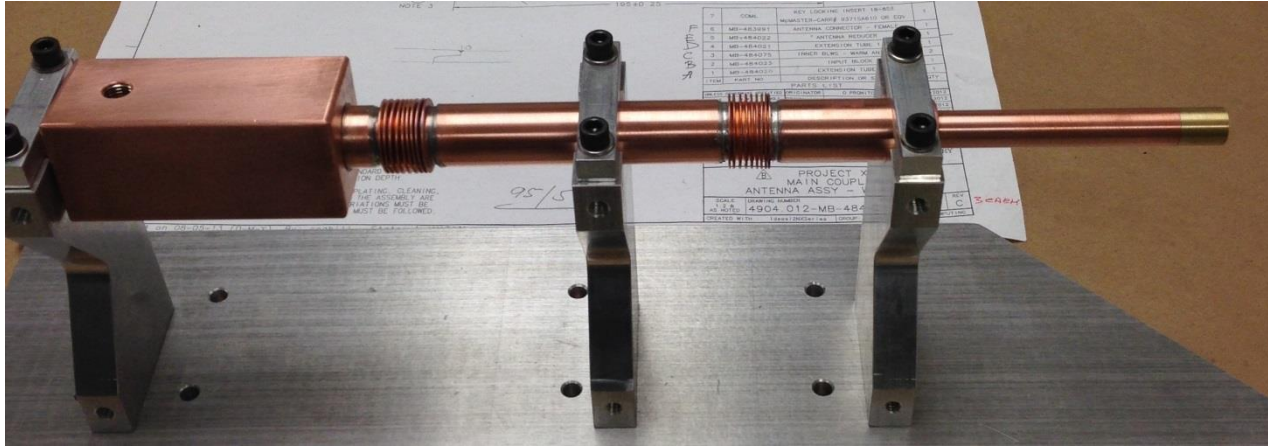
325 MHz DC blocks, S11
final assemblies (after HV test)



**DC blocks have been tested up to 5.5 kV of DC voltage.
Operating voltage ~ 2 kV**

Problems:

Bellows are too soft. Bellows will be more stiffer in next couplers.



Quality of ceramic brazing is poor and must be improved.

